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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Oussama Khatib

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EXAMINER

PANI, JOHN

ART UNIT

PAPER NUMBER

3736

MAIL DATE

DELIVERY MODE

03/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,944	Applicant(s) KHATIB ET AL.	
	Examiner JOHN PANI	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 8/28/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119(e), a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim

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filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

It does not identify the foreign application for patent or inventor's certificate on which priority is claimed pursuant to 37 CFR 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month and year of its filing.

Specification

3. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

4. The disclosure is objected to because it contains embedded hyperlinks and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlinks and/or other form of browser-executable code. See MPEP § 608.01.

5. The attempt to incorporate subject matter into this application by reference to "Development of Micro-wiring on the outer wall of a catheter", "Development of a microfine active bending catheter equipped with MIF tactile sensors", "Silicon-based three axial force sensor for prosthetic applications", "Fiber-optic tactile microsensor for detecting the position of the tip of a fiberscope", "Microsensors and microactuators for biomedical application", "Roark's formulas for stress and strain", "Strength of biomedical

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materials", "Real-time interactive simulator for percutaneous coronary revascularization procedures", and "Dynamic models for haptic rendering systems" is ineffective because the words "incorporate" and/or "reference" have been omitted, see 37 CFR 1.57(b)(1).

6. The incorporation by reference will not be effective until correction is made to comply with 37 CFR 1.57(b), (c), or (d). If the incorporated material is relied upon to meet any outstanding objection, rejection, or other requirement imposed by the Office, the correction must be made within any time period set by the Office for responding to the objection, rejection, or other requirement for the incorporation to be effective.

Compliance will not be held in abeyance with respect to responding to the objection, rejection, or other requirement for the incorporation to be effective. In no case may the correction be made later than the close of prosecution as defined in 37 CFR 1.114(b), or abandonment of the application, whichever occurs earlier.

7. Any correction inserting material by amendment that was previously incorporated by reference must be accompanied by a statement that the material being inserted is the material incorporated by reference and the amendment contains no new matter. 37 CFR 1.57(f).

8. The disclosure is objected to because of the following informalities: An amendment to the Specification occurred in the IPEA-409 filed January 4, 2006 which replaced pages 2 and 4 of the specification. It is unclear exactly what the specification now consists of. The replacement page 2 includes only two paragraphs and the heading "Summary of the invention", and it is unclear whether this is all Applicant intended for page 2 as page 3 includes references to material that was apparently

stricken from page 2. Furthermore, the replacement page 4 starts with a new paragraph while the original included a portion of a paragraph which began on page 3.

Appropriate correction is required.

Claim Objections

9. Claims 1-10 are objected to because of the following informalities: In line 1 of claim 1 it is suggested to insert --A—prior to "[h]aptic". In line 1 of claims 2-10 it is suggested to insert --The—prior to "[h]aptic". Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In reference to Claim 1

Lines 6-8 recite "the control means being arranged to calculate the applied force in accordance with the remote force, the applied force being an amplification of the remote force". It is unclear what is meant by calculating a force "in accordance with" another force. The accepted definition of "accordance" is "agreement; conformity". It is unclear what is meant by calculating a force "in agreement/conformity with" another force with the exception of possibly meaning "equal to". However, if this is the intended

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meaning, it appears to contradict "the applied force being an amplification of the remote force." This lack of clarity regarding the metes and bounds of the claim renders the claim indefinite.

In reference to Claim 2

"The amount" in line 2 lacks antecedent basis in the claims.

In reference to Claim 3

"The rotational movement" in line 2 lacks antecedent basis in the claims.

In reference to Claim 4

"The linear movement" in line 2 lacks antecedent basis in the claims.

In reference to Claim 5

Claim element "means for comparing the remote force with a reference force" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. No structure is detailed within the specification which conducts the "comparing" function.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

In reference to Claim 10

“The length” in lines 2-3 lacks antecedent basis in the claims.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 6,096,004 to Meglan et al. (“Meglan”).

14. Meglan teaches:

In reference to Claim 1

A haptic feedback apparatus (Fig. 2) comprising: a force application means (52) arranged to apply a force to an elongate intervention device (at least 10', 12', 14', 50, 56, 52, 10", 12", and 14"), control means (56, 66) arranged to control the force applied to the intervention device by the force application means, the control means being connected to at least one sensor (at least one of 114, 116 of 50) arranged to sense a remote force on the intervention device (see col. 5-col. 8) and the control means being arranged to calculate the applied force in accordance with the remote forces, the applied force being an amplification of the remote force (see at least col. 5 lines 15-35), wherein the force application means comprises a resilient member (at least 120, 122, 124, 126, 140) arranged to apply the said force to the intervention device, and wherein the apparatus further comprises a sensor (at least other of 114, 116 of 50) arranged to detect frictional force between the resilient member and the intervention device.

In reference to Claim 2

The haptic feedback apparatus of claim 1 (see above) wherein the detected frictional force is used to control the amount of applied force (col. 5 lines 15-35, col. 7 lines 10-20).

In reference to Claim 3

Claim 3 includes the limitation "means for tracking the rotational movement of the intervention device". This limitation meet the three-prong analysis in that: (a) it uses the phrase "means for"; (b) the "means for" is modified by functional language; and (c) the

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phrase "means for" is not modified by sufficient structure or material for achieving the specified function. Therefore the limitation is presumed to invoke 35 U.S.C. 112, 6th paragraph (see MPEP § 2181). The limitation has been interpreted as referring to a wheeled encoder for tracking the rotational movement of the intervention device which Meglan teaches (see col. 6 lines 53-55).

In reference to Claim 4

Claim 4 includes the limitation "means for tracking the linear movement of the intervention device." This limitation meet the three-prong analysis in that: (a) it uses the phrase "means for"; (b) the "means for" is modified by functional language; and (c) the phrase "means for" is not modified by sufficient structure or material for achieving the specified function. Therefore the limitation is presumed to invoke 35 U.S.C. 112, 6th paragraph (see MPEP § 2181). The limitation has been interpreted as referring to a wheeled encoder for tracking the linear movement of the intervention device, which Meglan teaches (see col. 6 lines 53-55).

In reference to Claim 6

The haptic feedback apparatus of claim 1 (see above) wherein the intervention device is suitable for insertion into a simulated human model (at least 10", 12", and 14").

In reference to Claim 7

The haptic feedback apparatus of claim 6 (see above) wherein the remote force is generated using computer simulation. (The Meglan device would be capable of receiving a remote force from a computer simulation).

In reference to Claim 8

The haptic feedback apparatus of claim 7 (see above) wherein the intervention device is operable to be inserted into a human subject (at least 10", 12", and 14").

In reference to Claim 9

The haptic feedback apparatus of claim 8 (see above) wherein the at least one sensor is disposed near or at a tip of the intervention device (see Fig. 3).

In reference to Claim 10

The haptic feedback apparatus according to claim 7 (see above) further comprising a plurality of sensors disposed along the length of the intervention device and the control means is connected to each of the plurality of sensors (see Fig. 3)

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meglan.

In reference to Claim 5

Claim 4 includes the limitation "means for comparing the remote force with a reference force." This limitation meet the three-prong analysis in that: (a) it uses the phrase "means for"; (b) the "means for" is modified by functional language; and (c) the phrase "means for" is not modified by sufficient structure or material for achieving the

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specified function. Therefore the limitation is presumed to invoke 35 U.S.C. 112, 6th paragraph (see MPEP § 2181). Because it is unclear from the specification what structure might perform this task, the limitation has been interpreted to include as an equivalent any structure that can compare a remote and reference force. Meglan teaches setting the desired force (i.e. the reference force) applied at the slave to some multiple of the force sensed at the master (i.e. the remote force). This step is deemed "comparing", and is performed by interface 56, which is thus interpreted as meeting the limitation of "a means for comparing the remote force with a reference force".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN PANI whose telephone number is (571)270-1996. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JP 3/17/09

/Max Hindenburg/
Supervisory Patent Examiner, Art Unit 3736

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